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# ALBERTA POPULATION GROWTH

FOURTH QUARTER, 1988

Alberta

TREASURY  
Bureau of Statistics



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ALBERTA POPULATION GROWTH  
FOURTH QUARTER, 1988

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April, 1989





### Note to Users

The population estimates contained in this publication are different than those released in the NEWSTATS. The Fourth Quarter estimates for interprovincial migration were revised because more complete information on family allowance transfers was obtained. Estimates on international migration and natural increase remain unchanged.



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## PREFACE

This publication presents up-to-date information on quarterly population estimates and growth components (births, deaths and migration) for the Province of Alberta. These statistics are derived using administrative data files obtained from several government agencies.

Data are also computer-accessible via ASIST (Alberta Statistical Information System) matrices #6128, 6130, 6140 and 6141. Enquiries concerning the publication or requests for additional copies or previous quarterly reports should be directed to:

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## INTRODUCTION

This publication presents the most recent Alberta population estimates and growth components for the fourth quarter of 1988. These population statistics are contained in Tables 1 to 4. Table 1 provides information on population growth by major component (natural increase and net migration). A more detailed breakdown of net migration (international and interprovincial) is contained in Table 2 while Table 4 highlights natural increase by component (births and deaths). As a special feature of this publication, quarterly population statistics for 1981 to 1985 are provided in these tables. Table 5 has also been included and highlights population growth by census year by component for 1981 to 1988. Finally, Table 3 provides a quarterly summary of population exchange between Alberta and the other provinces for 1987 and 1988.

Three charts are also included in this publication. Figures 1 and 2 provide illustrations of long-term trends in population growth and in interprovincial migration for 1981 to 1988. Figure 3 illustrates population exchange between Alberta and other provinces for the fourth quarter of 1988.

The appendix contains a brief description of the methodology and data sources used in deriving these statistics.

## REVIEW OF THE DATA

In 1988, Alberta experienced its first gain in net migration since 1982. This gain is attributed mainly to a large decline in net losses from interprovincial migration. The number of people moving to Alberta from other parts of Canada remained relatively stable, but the number of Albertans relocating to other provinces decreased substantially. As a result, Alberta had the smallest net loss from interprovincial migration in six years.





More specifically:

#### Quarterly Growth

- Population growth declined to 7,910 in the fourth quarter from 10,720 in the third. However, this was the highest level of growth in the fourth quarter since 1985 (Table 1 and Figure 1).
- Net migration was 970, down from 3,040 in the third quarter (Tables 1 and 2).
- During the fourth quarter, 19,260 people moved to Alberta from other provinces while 20,790 Albertans left for other parts of Canada, resulting in a net interprovincial loss of 1,540 people. This was the largest net quarterly loss in 1988.
- Offsetting this loss in interprovincial migration was a gain of 2,500 from international migration. In the fourth quarter, 3,660 people immigrated to Canada and 1,160 Albertans left the country.
- British Columbia continued to be the main destination for Alberta's out-migrants and the main source for Alberta's in-migrants. In the fourth quarter, 6,050 people (31.4% of all in-migrants) moved to Alberta from British Columbia and 9,570 Albertans (46.0% of all out-migrants) relocated to British Columbia (Table 3 and Figure 3).
- Natural increase decreased to 6,940 in the fourth quarter from 7,680 in the third (Tables 1 and 4).



### Annual Growth

- Alberta's population increased by 34,670 people, the highest level of growth since 1982, reaching 2.42 million as of January 1, 1989.
- For the first time in seven years, Alberta had four consecutive quarters of gains in net migration.
- Alberta has a much lower loss from interprovincial migration. Compared to the previous year's loss of 23,390, Alberta lost only 2,520 people from interprovincial migration. This lower loss is a result of fewer Albertans moving to other provinces. In 1988, 69,820 Albertans moved to other parts of Canada while 86,390 left the province during the previous year.
- Alberta gained 11,160 people in net exchange with Saskatchewan, Manitoba, Quebec, the Territories, Newfoundland and New Brunswick, but lost about 13,670 people to British Columbia, Ontario, Prince Edward Island, and Nova Scotia.
- The net international migration of 8,590 was the largest gain since 1982.





FIGURE 1

# POPULATION GROWTH WITH MAJOR COMPONENTS ALBERTA 1981-1988

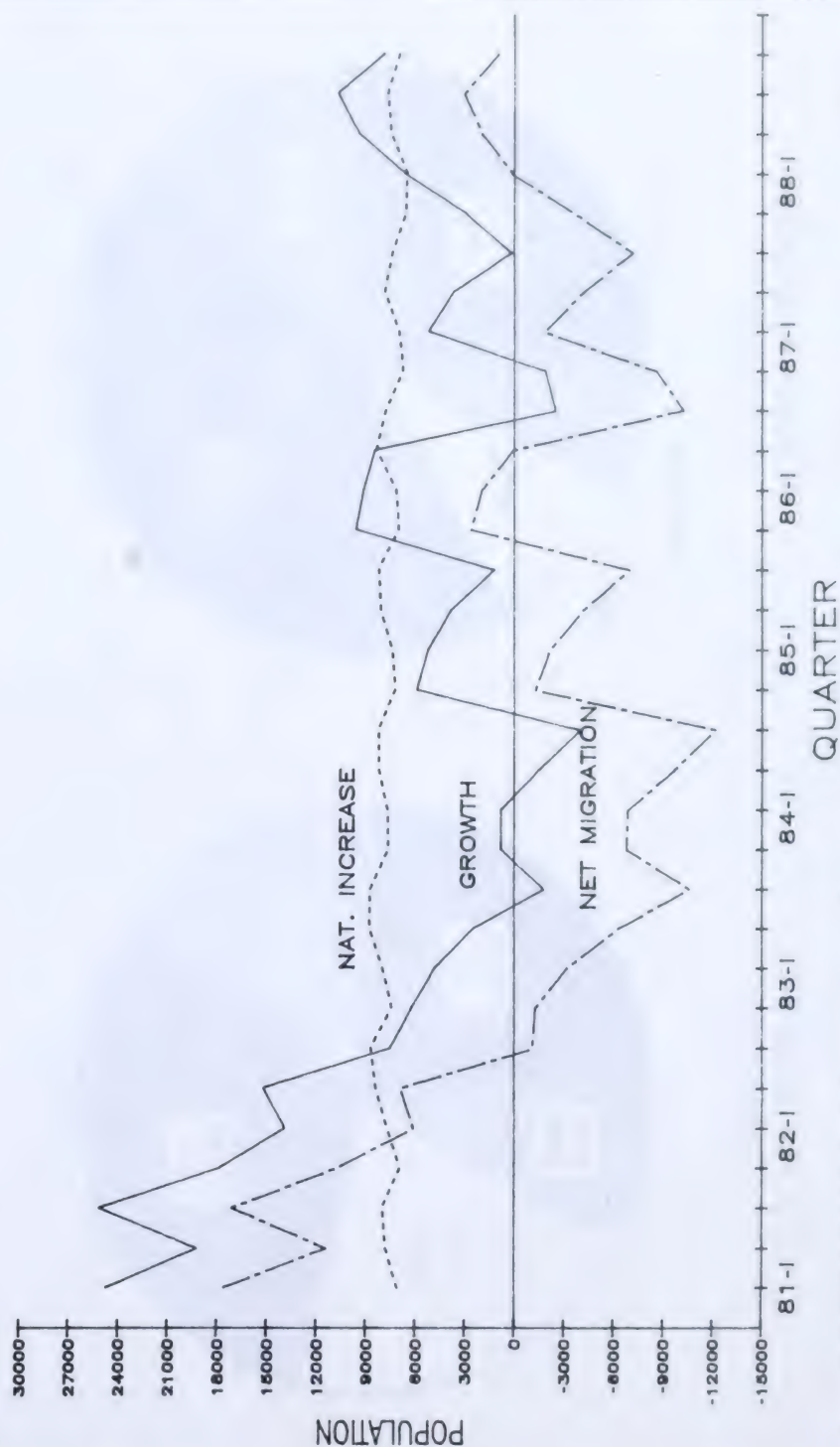
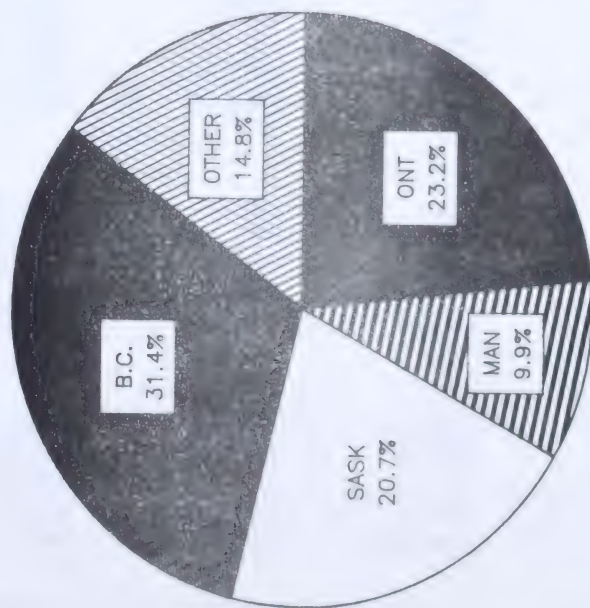


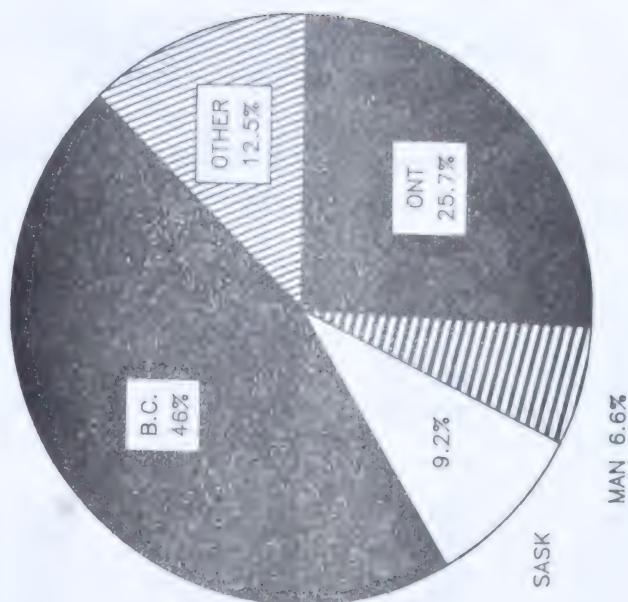


FIGURE 3

# POPULATION EXCHANGE ALBERTA AND OTHER PROVINCES FOURTH QUARTER 1988



IN-MIGRATION  
(19,266 PERSONS)



OUT-MIGRATION  
(20,792 PERSONS)





TABLE 1  
FINAL INTERCENSAL ESTIMATES  
POPULATION GROWTH BY MAJOR COMPONENT  
ALBERTA, 1981 TO 1985

Quarter	Natural Increase	Net Migration	Growth	Population
1981				
I	7,100	17,600	24,700	2,226,900
II	7,800	11,400	19,200	2,246,100
III	8,000	17,100	25,100	2,271,200
IV	6,900	10,700	17,800	2,288,900
TOTAL	29,800	56,800	86,800	2,288,900
1982				
I	7,700	6,100	13,900	2,302,800
II	8,400	6,900	15,200	2,318,000
III	8,700	-1,100	7,500	2,325,500
IV	7,400	-1,300	6,200	2,331,700
TOTAL	32,200	10,600	42,800	2,331,700
1983				
I	8,000	-3,200	4,800	2,336,500
II	8,800	-6,300	2,500	2,339,000
III	8,700	-10,600	-1,800	2,337,200
IV	7,600	-6,800	800	2,338,000
TOTAL	33,100	-26,900	6,300	2,338,000
1984				
I	7,700	-6,900	800	2,338,800
II	8,200	-9,700	-1,500	2,337,200
III	8,200	-12,200	-4,000	2,333,300
IV	7,200	-1,300	5,900	2,339,200
TOTAL	31,300	-30,100	1,200	2,339,200
1985				
I	7,400	-2,200	5,200	2,344,400
II	8,100	-4,200	3,800	2,348,200
III	8,200	-7,000	1,200	2,349,500
IV	7,000	2,600	9,600	2,359,100
TOTAL	30,700	-10,800	19,800	2,359,100

SEE NOTES AT END OF TABLE.



TABLE 1 (CONCLUDED)

POPULATION GROWTH BY MAJOR COMPONENT  
ALBERTA, 1986 TO 1988

Quarter	Natural Increase	Net Migration	Growth	Population
1986				
I	7,170	1,950	9,120	2,368,200
II	8,360	80	8,440	2,376,600
III	7,760	-10,270	-2,510	2,374,100
IV	6,740	-8,610	-1,870	2,372,200
TOTAL	30,030	-16,850	13,180	2,372,200
1987				
I	7,020	-1,820	5,200	2,377,400
II	7,860	-4,180	3,680	2,381,100
III	7,360	-7,170	190	2,381,300
IV	6,550	-3,620	2,930	2,384,200
TOTAL	28,790	-16,790	12,000	2,384,200
1988				
I	6,490	120	6,610	2,390,800
II	7,480	1,950	9,430	2,400,200
III <sup>r</sup>	7,680	3,040	10,720	2,410,900
IV <sup>p</sup>	6,940	970	7,910	2,418,900
TOTAL	28,590	6,080	34,670	2,418,900

Notes: Reference date for population is the first day of the subsequent quarter.  
Total population is rounded to the nearest 100.  
Data may not add to totals due to rounding.  
Data can be retrieved via ASIST matrix 6128.  
r: revised  
p: preliminary





TABLE 2

FINAL INTERCENSAL ESTIMATES  
MIGRATION BY COMPONENT  
ALBERTA, 1981 TO 1985

Quarter	International			Interprovincial		
	Im- migration	Em- igration	Net	In Migration	Out Migration	Net
1981						
I	4,000	500	3,500	43,400	29,300	14,100
II	5,100	1,300	3,800	25,500	17,900	7,600
III	5,600	2,600	3,000	35,800	21,700	14,100
IV	5,200	1,500	3,700	21,000	14,000	7,000
TOTAL	19,900	5,900	14,000	125,700	82,900	42,800
1982						
I	4,500	1,700	2,800	16,500	13,200	3,300
II	5,300	1,600	3,700	19,900	16,700	3,200
III	4,500	2,800	1,700	22,500	25,300	-2,800
IV	3,600	1,800	1,800	12,100	15,200	-3,100
TOTAL	17,900	7,900	10,000	71,000	70,400	600
1983						
I	2,600	1,500	1,100	9,900	14,200	-4,300
II	2,900	1,800	1,100	11,000	18,400	-7,400
III	2,700	2,700	0	15,300	25,900	-10,600
IV	2,500	1,900	600	8,400	15,800	-7,400
TOTAL	10,700	7,900	2,800	44,600	74,300	-29,700
1984						
I	2,400	1,500	900	7,000	14,800	-7,800
II	3,100	2,000	1,100	7,800	18,600	-10,800
III	3,100	1,100	2,000	20,700	34,900	-14,200
IV	2,200	1,100	1,100	18,800	21,200	-2,400
TOTAL	10,800	5,700	5,100	54,300	89,500	-35,200
1985						
I	2,000	1,400	600	12,800	15,600	-2,800
II	2,000	1,600	400	13,000	17,600	-4,600
III	2,700	2,600	100	21,400	28,500	-7,100
IV	2,200	1,100	1,100	23,700	22,200	1,500
TOTAL	8,900	6,700	2,200	70,900	83,900	-13,000

SEE NOTES AT END OF TABLE.



TABLE 2 (CONCLUDED)

MIGRATION BY COMPONENT

ALBERTA, 1986 TO 1988

Quarter	International			Interprovincial		
	Im- migration	Em- igration	Net	In Migration	Out Migration	Net
1986						
I	2,200	1,440	760	15,040	13,850	1,190
II	2,510	1,340	1,170	15,030	16,120	-1,090
III	2,440	2,240	200	21,940	32,410	-10,470
IV	2,400	1,240	1,160	17,200	26,970	-9,770
TOTAL	9,550	6,260	3,290	69,210	89,350	-20,140
1987						
I	2,360	910	1,450	11,650	14,920	-3,270
II	3,000	1,130	1,870	12,520	18,570	-6,050
III	3,320	1,970	1,350	18,820	27,340	-8,520
IV	3,140	1,210	1,930	20,010	25,560	-5,550
TOTAL	11,820	5,220	6,600	63,000	86,390	-23,390
1988						
I	2,450	1,090	1,360	12,300	13,540	-1,240
II	3,900	1,160	2,740	13,000	13,790	-790
III	3,790	1,800	1,990	22,750	21,700	1,050
IVp	3,660	1,160	2,500	19,260	20,790	-1,540
TOTAL	13,800	5,210	8,590	67,310	69,820	-2,520

Notes: Data may not add to totals due to rounding.  
 Data can be retrieved via ASIST matrices 6128 and 6130.  
 r: revised  
 p: preliminary





TABLE 3

POPULATION EXCHANGE WITH OTHER PROVINCES  
ALBERTA, 1987 TO 1988

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1987												
-----												
I	To Alta.	300	20	360	200	250	2830	980	2070	4320	310	11650
	From Alta.	150	30	380	180	600	5580	850	1540	5220	400	14920
	Net Exchange	150	-10	-20	20	-350	-2750	130	530	-900	-90	-3270
-----												
II	To Alta.	340	110	260	250	420	2710	1060	2470	4600	300	12520
	From Alta.	280	90	500	310	680	6290	1080	1950	6960	440	18570
	Net Exchange	60	20	-240	-60	-260	-3580	-20	520	-2360	-140	-6050
-----												
III	To Alta.	310	160	630	480	930	4500	1790	3570	5860	600	18820
	From Alta.	390	140	950	610	1090	9160	1710	2150	10610	540	27340
	Net Exchange	-80	20	-320	-130	-160	-4660	80	1420	-4750	60	-8520
-----												
IV	To Alta.	300	70	710	510	850	5020	1580	3810	6440	730	20010
	From Alta.	440	80	810	430	790	7720	1560	2440	10720	570	25560
	Net Exchange	-140	-10	-100	80	60	-2700	20	1370	-4280	160	-5550
-----												
TOTAL	To Alta.	1250	360	1960	1440	2450	15060	5410	11920	21220	1940	63000
	From Alta.	1260	340	2640	1530	3160	28750	5200	8080	33510	1950	86390
	Net Exchange	-10	20	-680	-90	-710	-13690	210	3840	-12290	-10	-23390

See notes at end of table.



TABLE 4  
FINAL INTERCENSAL ESTIMATES  
NATURAL INCREASE BY COMPONENT  
ALBERTA, 1981 TO 1985

Quarter	Births	Deaths	Natural Increase
1981			
I	10,200	3,100	7,100
II	10,900	3,100	7,800
III	11,200	3,200	8,000
IV	10,400	3,500	6,900
TOTAL	42,700	12,900	29,800
1982			
I	11,000	3,300	7,700
II	11,600	3,200	8,400
III	11,800	3,100	8,700
IV	10,900	3,500	7,400
TOTAL	45,300	13,100	32,200
1983			
I	11,300	3,300	8,000
II	11,800	3,000	8,800
III	11,900	3,200	8,700
IV	10,800	3,200	7,600
TOTAL	45,800	12,700	33,100
1984			
I	10,900	3,200	7,700
II	11,400	3,200	8,200
III	11,400	3,200	8,200
IV	10,500	3,300	7,200
TOTAL	44,200	12,900	31,300
1985			
I	10,700	3,300	7,400
II	11,400	3,300	8,100
III	11,400	3,200	8,200
IV	10,500	3,500	7,000
TOTAL	44,000	13,300	30,700

SEE NOTES AT END OF TABLE.



TABLE 4 (CONCLUDED)

NATURAL INCREASE BY COMPONENT  
ALBERTA, 1986 TO 1988

Quarter	Births	Deaths	Natural Increase
1986			
I	10,660	3,490	7,170
II	11,760	3,400	8,360
III	11,040	3,280	7,760
IV	10,210	3,470	6,740
TOTAL	43,670	13,640	30,030
1987			
I	10,310	3,290	7,020
II	11,240	3,380	7,860
III	10,660	3,300	7,360
IV	9,950	3,400	6,550
TOTAL	42,160	13,370	28,790
1988			
I	10,170	3,680	6,490
II	10,870	3,390	7,480
IIIr	11,020	3,340	7,680
IVp	10,360	3,420	6,940
TOTAL	42,420	13,830	28,590

Notes: Data may not add to totals due to rounding.  
 Data can be retrieved via ASIST matrix 6128.  
 r: revised  
 p: preliminary





TABLE 5

POPULATION GROWTH BY CENSUS YEAR, BY COMPONENT  
ALBERTA, 1981 TO 1988  
(IN THOUSANDS)

Year	Population (June 1)	Natural Increase				Migration						
		Growth	Births	Deaths	Net	International		Interprovincial			Total Net Migration	
						Immig.	Emig. Net	In	Out	Net		
1981	2,237.3	77.2	44.0	13.2	30.8	20.6	7.3	13.2	98.0	64.8	33.3	46.5
1982	2,314.5	24.1	45.6	13.0	32.7	14.5	7.9	6.6	57.9	72.9	-15.1	-8.5
1983	2,338.7	-0.2	45.1	12.7	32.4	10.6	7.8	2.8	39.9	75.3	-35.4	-32.6
1984	2,338.5	10.1	44.2	13.0	31.2	9.5	5.4	4.1	64.5	89.8	-25.2	-21.1
1985	2,348.5	26.8	44.3	13.6	30.7	9.4	6.6	2.8	74.6	81.4	-6.7	-3.9
1986	2,375.3	5.0	42.8	13.4	29.4	10.2	5.8	4.5	63.3	92.2	-28.9	-24.4
1987	2,380.2	17.4	41.8	13.8	28.0	12.5	5.3	7.2	64.8	82.6	-17.8	-10.6
1988	2,397.6											

NOTE: DATA MAY NOT ADD TO TOTALS DUE TO ROUNDING.



## APPENDIX





## METHODOLOGY

### Introduction

Since 1977 the Alberta Bureau of Statistics has prepared quarterly population estimates to provide up-to-date information on Alberta's population. These estimates are derived using information from administrative data files obtained from the following government agencies:

- 1) birth and death registrations from Vital Statistics Section, Alberta Health;
- 2) family allowance transfer counts from Income Security Branch, Health and Welfare Canada;
- 3) immigration statistics from Employment and Immigration Canada;
- 4) migration adjustment factors and population estimates for other provinces from Demography Division, Statistics Canada; and
- 5) health care registration data from Alberta Health.

The final estimates are produced using a component method. A description of the basic methodology and the procedures used in estimating each of the population growth components, as well as the age-sex structure is presented in the following sections.

### The Component Method

The component method of estimating quarterly population growth employs the population of a previous quarter as a base, and adds the natural increase plus net migration to derive the population estimates for the following quarter. Natural increase is obtained by subtracting deaths from births. Net migration is



obtained by aggregating net interprovincial (in-migration minus out-migration) and net international migration (immigration minus emigration). These are then combined to derive an estimate of population growth.

### **Natural Increase**

Natural increase is calculated as the difference between the number of births and the number of deaths that occurred during a specific quarter. Preliminary estimates on births and deaths are produced using birth and death rates. The average quarterly crude birth rate and the crude death rate of the preceding year are applied to the estimated provincial population at the beginning of the period to derive the estimated number of births and deaths. These estimates are then replaced by actual counts in the next quarterly report when data are available from Vital Statistics Section, Alberta Health. These figures for births and deaths are 98% accurate. At the end of the year, the figures are further revised to include late registrations and out-of-province births and deaths.

### **Interprovincial Migration**

To estimate interprovincial migration, family allowance transfer of accounts are used in conjunction with the latest adjustment factors and child-adult ratios. Since family allowance cheques are mailed to the families monthly, there is incentive for these families to report any change in their address. The time lag in reporting such change is usually very small. Over the years family allowance transfer of accounts data have been an accurate source of the movements of children among the provinces.

The procedures used in estimating interprovincial migration for Alberta are further improved by incorporating additional information from tax records migration data. Net interprovincial migration is derived as the balance of in-migration and out-migration.



## Immigration

The estimate of immigration is first produced on a preliminary basis and then revised when immigration statistics become available. Preliminary estimates are derived taking into consideration the expected number of immigrants to be admitted to Canada in a certain year as announced by Employment and Immigration Canada. Based on the historical immigration records a ratio is derived to estimate Alberta's share of the total immigrants coming to Canada.

The final estimate of immigrants coming to Alberta is based on statistics compiled from immigration papers which each immigrant submits to the Canadian authority at the port of entry. The immigration papers contain information on the intended place of destination and the place of origin of the immigrant. Since this information is available monthly, the quarterly estimate of immigrants intending to come to Alberta can be calculated. These revised figures are obtained by the subsequent quarter and thus the current quarterly publication updates the previous preliminary estimates.

## Emigration

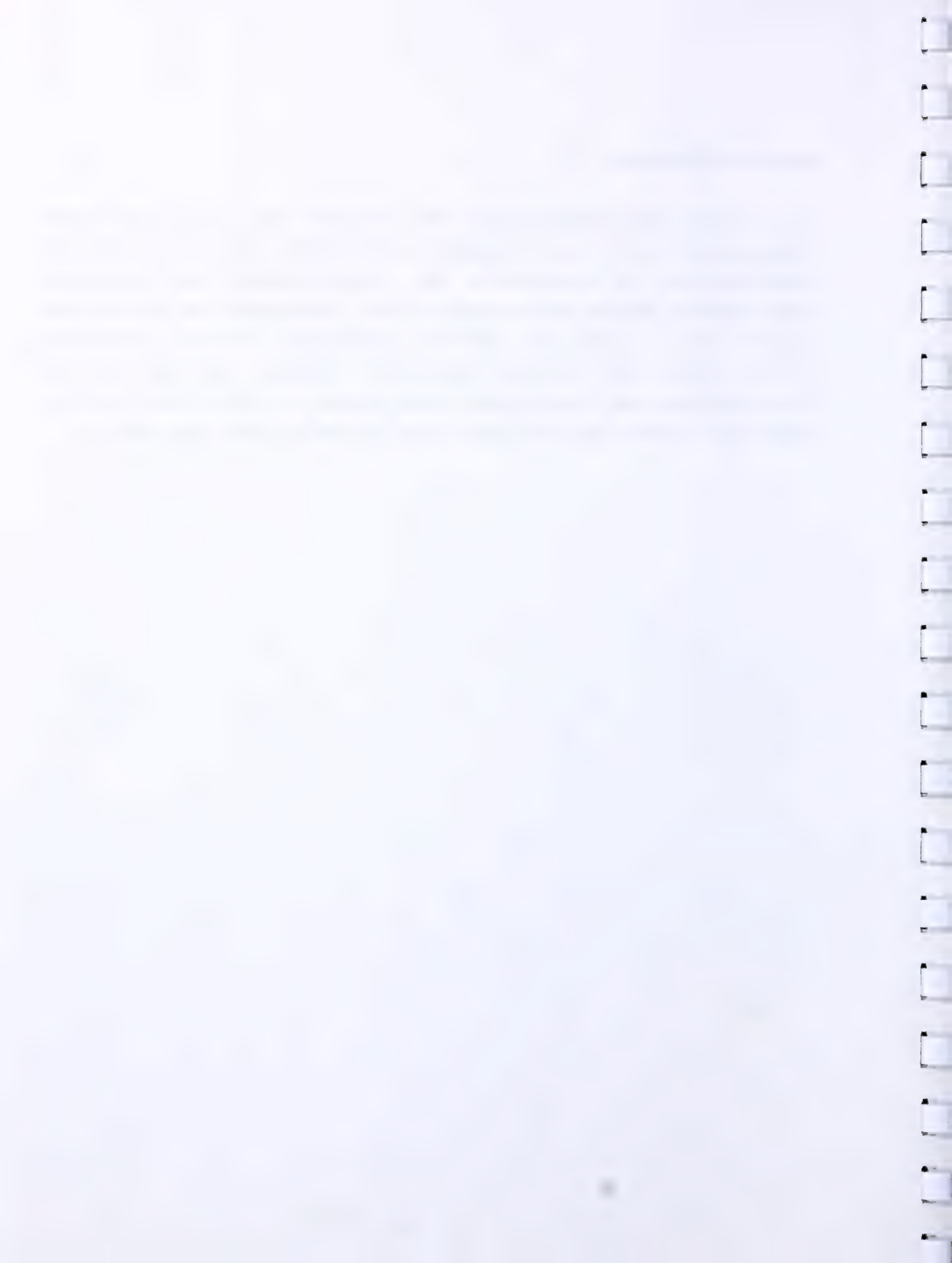
Emigration estimates are derived from a method developed by Statistics Canada in which an adjustment factor is developed from emigration information retrieved from personal income tax files. This adjustment factor is applied to the number of family allowance accounts which have been transferred out of the country during the quarter to obtain the emigration estimate. An adult-child ratio based on the 1986 Census counts is then applied to estimate the number of adult emigrants. The sum of estimated adult emigrants and child emigrants, as indicated by family allowance data, equals to the total number of estimated emigrants.





### Age-Sex Structure

Age and sex distributions for the January 1 and June 1 estimated population are derived by applying the proportionate age and sex distributions as recorded in the Alberta Health Care Insurance Plan (AHCIP) Master Registration File. Although the health care records are subject to certain limitations such as reporting error, time lags and administrative changes, the age and sex distributions of registrants have proven to accurately reflect the most current age-sex structure of the Alberta population.



## GLOSSARY

**Birth Rate, or Crude Birth Rate** - the number of births in a year divided by the total population.

**Child Dependency Ratio** - the ratio of children under 15 to working-age persons between the ages of 15 and 64.

**Death Rate, or Crude Death Rate** - the number of deaths in a year divided by the total population.

**Emigration** - the migration of population out of a country to another country.

**Fertility** - the contribution of births to population change.

**Immigration** - the migration of population into a country from another country.

**In-migration** - the migration of population into a geographical area.

**Median Age** - the age at which the population is divided into equal halves, such that one half of the population is older than the median age and the other half of the population is younger than the median age.

**Migration** - a permanent change of residence from one geographical area to another.

**Natural Increase** - the net contribution of births less deaths to population change.

**Net Migration** - the difference between in-migration and out-migration for a geographical area.

**Old Age Dependency Ratio** - the ratio of persons aged 65 years and over to working-age persons between the ages of 15 and 64.

**Out-migration** - the migration of population out of a geographical area.







